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Index of Mathematical Papers Volume 11
Published by the American Mathematical Society
Providence, Rhode Island USA
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Second Class Postage Paid at Providence, Rhode Island and at additional mailing offices
U. S. Postal Service Publication No. 333940
ISBN 0-8218-4014-2
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EDITORIAL COMMITTEE
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Volumes 57 and 58

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Second Class Postage Paid at Providence, Rhode Island and at additional mailing offices
U. S. Postal Service Publication No. 333940
ISBN 0-8218-4014-2

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Printed in the United States of America

PREFACE

This annual index of Mathematical Reviews is included with each subscription. It is also available separately as Vol. 11 of the Index of Mathematical Publication (IMP). Vols. 5—10 of IMP are the annual indexes for the years 1973—1978. The 1978 annual index was the first to be included with each subscription. There are cumulative author indexes to MR that cover 1940—1959, 1960—1964 and 1965—1972. Cumulative author and subject indexes for 1973—1979 are under production.

The classification scheme used in the present subject index is the AMS (MOS) 1970 subject classification scheme except for that used in Sections 69 through 86 (which is described on pages 2194—2195 of Volume 54 of MR), and Sections 96 through 98 which do not occur at all. The 1980 Mathematics Subject Classification will be used in Mathematical Reviews starting Jan. 1980. A corrected copy of this classification is printed in the back of the subject portion of this index.

The entries in the author and key indexes give full bibliographic information about all items that are reviewed in MR. Those entries are accompanied by MR numbers and classification numbers; secondary classification numbers are given in parentheses. In the subject index, an item listed under its secondary classification has the MR number given in parentheses.

A star (★) preceding a title (or a name in a cross-reference) indicates a book or other non-periodical, reviewed as a whole. If an issue of a journal needs to be reviewed as a whole (e.g., when it is a collection of articles dedicated to an individual) and an ad hoc title is devised for this purpose, then the latter will appear in braces { }.

1. ALPHABETICAL ORDER

Reviewed items are listed alphabetically by author; items having several authors are listed in full under each author (this was not done in the earlier cumulative indexes). Surnames consisting of more than one part (e.g., de Branges, van der Corput) are listed under the first capital letter. Collections, proceedings and other similar publications that may have editors but do not have specific authors are given alphabetically by title in a separate list (corresponding to the key index in the monthly issues of Mathematical Reviews) following the list of authors. Individual articles in a collection are listed independently, under the names of the authors, if they were reviewed separately.

2. CROSS-REFERENCES

There are four kinds of cross-references in this index.

(a) *Name variations.*

The use of primary names in Mathematical Reviews was described in the Foreword to the 5-year index to Volumes 21—28, 1960—1964, mentioned above. All items by a given author are listed under that author's primary name and cross-references to the primary form are given from any other forms of the author's name that have been used in items reviewed.

(b) *Authors in other capacities.*

In the author index, the names of persons associated with an item in a capacity other than that of author (e.g., editor, translator, subject of a biography, etc.) are also listed. In the subject index, such names are given in parentheses in the positions that they would occupy had they been authors. In both indexes these items occur only as cross-references to complete listings.

(c) *Key entries.*

Certain collections that are listed under their titles, as described in Section 1 above, are also listed under other headings. For example, the publication entitled *Proceedings of the Symposium on Theory and Applications of Generalized Inverses of Matrices* is listed under the full title and also under the headings 'Generalized inverses of matrices' and 'Symposium on theory and application of generalized inverses of matrices'. These listings are not true cross-references, since a complete entry appears under each heading. However, there are such 'key entries' that are cross-references: e.g., a cross-reference will normally be listed under the heading 'Bibliography' to, say, an obituary notice that contains an extensive bibliography (the cross-reference will be given to the author of the article, not its subject, or to the title if the author is not known; the subject will receive a cross-reference of the kind described in Section 2(b) above, i.e., in the appropriate place among his or her publications).

(d) *Errata.*

If an erratum receives a review separate from that of the original item then it will be listed in the usual way, but the listing for the original item will end with the letter E in parentheses: (E). This indicates the presence of a listing for an erratum, correction, comment, etc. among the subsequent entries (in this connection see also the remark on the occurrence of two review numbers in one entry, near the end of Section 3 below).

3. ARRANGEMENT OF ENTRY

The entries under a given heading (i.e., the primary name of an author, or a title) are listed in order of nominal publication dates; this includes the cross-references described in Section 2(b) above. For this purpose co-authored items are treated on the same basis as those written by the author alone. (This is a major difference between the arrangement in this index and that in the earlier cumulative indexes: in the latter, entries under a given heading were grouped into singly-authored items, doubly-authored items, etc., alphabetical and chronological subgroupings then being used within each group.)

The arrangement of each title entry is that of the heading of the original review in Mathematical Reviews. Titles in English, French, German and Italian are given as they appeared in the original, with no embellishments except for the mention of summaries in languages other than that of the item in question and, occasionally, of items such as discussion, comments, etc. Article titles in languages other than those mentioned are given in English translation (with the language of the original following in parentheses and accompanied by the mention of summaries in other languages). Book and monograph titles in languages other than those mentioned are given in the original language, the title being followed by the language of the original, in parentheses, and this being followed by an English translation of the title, in brackets.

The general form for title entries is as follows:

Books, Monographs: Title. (Language of original [if necessary]) [English translation of title [if necessary]] Miscellaneous information (edition, editors, translators, series, etc.). Publisher, city, date. Pagination. (Reviewer's name) Review number.

Journal article: Title of article. (Language of original [if necessary]. Summaries in languages other than the original [if necessary]) Journal abbreviation (series number) volume number (volume number in first series if given) (nominal date), issue number [if necessary], first page-last page (imprint date). (Reviewer's name) Review number.

The first part of the review number refers to the volume in which the review was published and the second part refers to its number within the volume. If there are two review numbers following an entry, the second one is usually an erratum. (Note: for the abbreviations of journal titles refer to the volume-index issues of the period in question.)

4. TRANSLITERATION

The transliteration of names and titles in Russian follows the scheme that has been used by Mathematical Reviews since 1962, and appropriate variants are used for Bulgarian, Macedonian, Serbian and Ukrainian.

The primary forms of Chinese names of authors who have published mainly in Chinese are those that result from the Wade-Giles romanization, the forms resulting from the Pinyin romanization being listed with cross-references to the corresponding primary forms. (See also Section 5 below and, for a more complete discussion of this rather involved matter, see pp. iv—vi of the Foreword to the *Author Index of Mathematical Reviews,* 1960—1964 (*Volumes* 21—28), mentioned above.)

5. NAMES OF CHINESE AUTHORS

The name of a Chinese author whose primary name has been determined as described in Section 4 above (i.e., who has not published mainly in Western journals) is placed in the index as though it were in Western form. For example, Hua Luo-geng will be listed as Hua, Luo Geng, as though the author's name were L. G. Hua (in Western form).

6. CONCLUSION

In an undertaking of this size some errors are inevitable, despite elaborate precautions and checks. The editors of Mathematical Reviews would be very glad to have their attention drawn to errors in this index and also in the earlier indexes.

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berge, Rolf (*with* Doksum, Kjell A.; Fenstad, Grete) Plots and tests for symmetry. *Biometrika* **64** (1977), *no*. 3, 473–487. (C. R. Heathcote) **58** #3181 62G10

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boe, Asger Remarks on the theoretical treatment of eclipses in antiquity. *J. Hist. Astronom*. **3** (1972), *no*. 2, 105–118. (J. L. Berggren) **58** #15799 01A15 (01A25, 70.01)

(*with* Henderson, Janice A.) The Babylonian theory of lunar latitude and eclipses according to system A. *Arch. Internat. Histoire Sci*. **25** (1975), *no*. 97, 181–222. (Editors) **58** #26692 01A15

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The development of theoretical astronomy in the U.S.S.R. *Vistas Astronom*. **19** (1975/76), *no*. 2, 163–177. (Editors) **58** #26945 01A50 (70.01, 85.01)

barbanel, Henry D. I. Self-consistent β functions in asymptotically free massless field theory. *Nuclear Phys. B* **130** (1977), *no*. 1, 29–37. (V. A. Malyšev) **58** #8945 81.49

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